

Job Description and Person Specification

Last updated: 21st August 2024

JOB DESCRIPTION

Post title:	Research Fellow in Physical Oceanography		
School/Department:	School of Ocean and Earth Science		
Faculty:	Faculty of Environmental and Life Sciences		
Career Pathway:	Education, Research and Enterprise (ERE)	Level:	4
*ERE category:	Research pathway		
Posts responsible to:	Bieito Fernandez Castro		
Posts responsible for:	N/A		
Post base:	Office-based		

Job purpose
To collect and analyse ocean profiling float observations, and to develop and validate a new method for estimating the intensity of ocean turbulence from its effects on float motion. This post is part of the 'POLEMIX: Autonomous Profiling observations to unravel the role of mixing in North Atlantic climate tipping points' project, recently funded by the UK Government's Research + Invention Agency (ARIA). This work will contribute to the creation of a float-based observing system to monitor turbulence and mixing rates in the subpolar North Atlantic, with the aim of understanding the role of freshwater mixing in deep convection and monitoring its fate under climate change.

Key accountabilities/primary responsibilities	% Time
<p>1. Develop and validate new estimates of turbulent mixing from profiling floats:</p> <ul style="list-style-type: none"> - Participate in float testing in the Mediterranean Sea (Villefranche-sur-Mer, France) and the subpolar North Atlantic - Process and analyse float turbulence microstructure data, as well as float motion data - Develop and validate a method to estimate the intensity of turbulence from float motion measurements, and validate it with direct microstructure observations, ensuring the method's accuracy and reliability through error quantification. 	50 %

Key accountabilities/primary responsibilities	% Time
<p>2. Conduct and Lead Original Research on Ocean Mixing:</p> <ul style="list-style-type: none"> - Contribute to and/or take the lead in preparing publications that present the newly developed method, as well as results from analyses of variability and impacts of mixing in the subpolar North Atlantic. - Regularly disseminate findings by presenting results at conferences, or exhibiting work at other appropriate events. - Contribute to the writing of bids for research funding. 	30 %
<p>3. Supervision and mentorship:</p> <ul style="list-style-type: none"> - Supervise the work of junior research staff - Offer specialist technical support for research activities, including training research staff and students in related techniques and procedures. 	5 %
<p>4. Personal Independent Research:</p> <ul style="list-style-type: none"> - develop and carry out areas of personal research, independent of this project. - and/or collaborate/work on tasks with colleagues at other institutions. 	5 %
<p>5. To allocate 10 days a year (pro rata if part-time) to undertake training and continuing professional development (CPD), develop research identity and leadership skills in line with the Researcher Development Concordat.</p>	5%
<p>6. Administrative Tasks:</p> <ul style="list-style-type: none"> - Carry out administrative task associated with specific research funding, for example risk assessment of research activities, organisation of project meetings and documentation. - Implementation of procedures required to ensure accurate and timely formal reporting and financial control. 	5 %

Internal and external relationships
<ul style="list-style-type: none"> - Principal Investigator (PI, Bieito Fernandez Castro) and Co-Investigator (Alberto Naveira Garabato). There are co-Investigators at other institutions: the National Oceanography Centre (Co-Is, Dirk Koopmans, Louis Clement), Laboratoire d'Océanographie de Villefranche-sur-Mer (Co-Is, Leo Lacour and Edouard Leymarie), and Rockland Scientific (Co-I Anneke Doeschate). - The PDRA will receive guidance from the PI and Co-Is on their research, and collaborate with the PI and Co-Is on the investigation. - PDRA will collaborate with the British Oceanographic Data Centre, as well as the modelling party of POLEMIX at the National Oceanography Centre and Massachusetts Institute of Technology.

Special Requirements
<ul style="list-style-type: none"> - To be available to participate in fieldwork as required by the specified research project. - To attend national and international conferences for the purpose of disseminating research results. <p><i>Applications for Research Fellow positions will be considered from candidates who are working towards or nearing completion of a relevant PhD qualification. The title of Research Fellow will be applied upon successful completion of the PhD. Prior to the qualification being awarded the title of Senior Research Assistant will be given.</i></p>

PERSON SPECIFICATION

Criteria	Essential	Desirable	How to be assessed
Qualifications, knowledge and experience	<p>PhD or equivalent professional qualifications and experience in Oceanography.</p> <p>Detailed understanding and knowledge of physical oceanography and fine-scale ocean processes.</p> <p>Experience in the analysis of physical oceanographic data sets (e.g., hydrography, turbulence microstructure, float data, glider data.).</p> <p>Experience with quantitative analytical methods commonly used in oceanography (e.g., spectral analysis, statistics) using a programming language (MATLAB, Python, etc.)</p>	<p>PhD in Physical Oceanography</p> <p>Knowledge of microscale ocean physics</p> <p>Experience with ocean autonomous vehicles (gliders, floats)</p> <p>Experience in the analysis of ocean turbulence and/or mixing datasets.</p> <p>Teaching at undergraduate level and contributing to teaching at postgraduate level</p> <p>Demonstrate commitment to maintaining professional knowledge and awareness through continuing personal and professional development</p> <p>Understanding of the Concordats relevant to research</p>	Application, CV, references and interview
Planning and organising	Able to organise own research activities to deadline and quality standards (i.e. manage own schedule).		References and interview
Problem solving and initiative	<p>Able to develop understanding of complex problems and apply in-depth knowledge to address them</p> <p>Able to develop original techniques/methods</p>		References and interview
Management and teamwork	<p>Able to supervise work of junior research staff, delegating effectively</p> <p>Able to contribute to School/Department management and administrative processes</p> <p>Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development</p>		Application, CV, References and interview
Communicating and influencing	<p>Communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience</p> <p>Able to present research results at group meetings and conferences</p>		Application, CV, references and interview

	<p>Able to write up research results for publication in leading peer-viewed journals in a timely manner.</p> <p>Work proactively with colleagues in other work areas/institutions, contributing specialist knowledge to achieve outcomes</p>		
Expected Behaviours	<p>Able to apply and actively promote equality, diversity and inclusion principles to the responsibilities of the role.</p> <p>Demonstrate the Southampton Behaviours and work with colleagues to embed them as a way of working within the team.</p>		References and interview
Other skills and behaviours	<p>Understanding of relevant Health & Safety issues</p> <p>Positive attitude to colleagues and students</p>		References and interview
Special requirements	<p>Able to attend national and international conferences to present research results</p>		Application, CV, References and interview

JOB HAZARD ANALYSIS

Is this an office-based post?

<input checked="" type="checkbox"/> Yes	If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below.
<input type="checkbox"/> No	If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the analysis below. Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder.

- HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

ENVIRONMENTAL EXPOSURES	Occasionally (<30% of time)	Frequently (30-60% of time)	Constantly (> 60% of time)
Outside work	x		
Extremes of temperature (eg: fridge/ furnace)			
## Potential for exposure to body fluids			
## Noise (greater than 80 dba - 8 hrs twa)			
## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below:			
Frequent hand washing			
Ionising radiation			
EQUIPMENT/TOOLS/MACHINES USED			
## Food handling			
## Driving university vehicles(eg: car/van/LGV/PCV)			
## Use of latex gloves (prohibited unless specific clinical necessity)			
## Vibrating tools (eg: strimmers, hammer drill, lawnmowers)			
PHYSICAL ABILITIES			
Load manual handling			
Repetitive crouching/kneeling/stooping			
Repetitive pulling/pushing			
Repetitive lifting			
Standing for prolonged periods			
Repetitive climbing (ie: steps, stools, ladders, stairs)			
Fine motor grips (eg: pipetting)			
Gross motor grips			
Repetitive reaching below shoulder height			
Repetitive reaching at shoulder height			
Repetitive reaching above shoulder height			
PSYCHOSOCIAL ISSUES			
Face to face contact with public			
Lone working			
## Shift work/night work/on call duties			